From:	William.Fischbein@epa.ohio.gov
To:	Barton, Kasey
Subject:	FW: Statoil Eisenbarth Compliance Agreement
Date:	Monday, October 05, 2015 2:55:53 PM
Attachments:	removed.txt Statoil Eisenbarth Compliance Agreement.pdf

Here you go. I believe the fish kill addressed by another mechanism. I will confirm.

From: Vendel, Eric
Sent: Friday, September 11, 2015 4:26 PM
To: ritin@statoil.com
Cc: Simmers, Richard; Williams, Michael; McCorkle, Bethany; Shimp, Frederick
Subject: Statoil Eisenbarth Compliance Agreement

Mr. Tink,

Please find the attached letter from Chief Simmers of the Division of Oil and Gas Resources Management to resolve violations at the Eisenbarth well pad in Monroe County Ohio.

After you have had a chance to review the document, please give me a call so that we can arrange a time to discuss a resolution to this matter. I can be reached at 614 265-6631.

Thank you,

Eric Vendel
Attorney
Ohio Department of Natural Resources
Division of Oil and Gas Resources Management
614-265-6631

DOGRM 1x1

Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

Richard J. Simmers, Chief
Division of Oil and Gas Resources Management
2045 Morse Road, Building F-2
Columbus, OH 43229-6693
Phone: (614) 265-6922; Fax: (614) 265-6910

September 11, 2015

Mr. Steve Tink
SSU Leader Marcellus Asset
Statoil USA Onshore Properties, Inc.
6300 Bridge Point Pkwy
Austin, Texas 78730

Re: Proposed Compliance Agreement

Dear Mr. Tink:

I am writing concerning violations of Ohio Revised Code Chapter 1509 and Ohio Administrative Code Chapter 1501:9 that occurred at the Eisenbarth Pad in Monroe County, Ohio. The violations include release of fluids that occurred in conjunction with the June 28, 2014 well pad fire.

I am proposing to enter into a compliance agreement with Statoil USA Onshore Properties, Inc. ("Statoil"). The compliance agreement is attached for Statoil's consideration. The compliance agreement describes the violations, requires implementation of certain emergency preparedness and response measures, and payment of a penalty. A portion of the penalty is proposed to be directed toward a supplemental project involving assistance to first responders for future incidents that may occur in Monroe County.

If the terms of the compliance agreement are acceptable, please sign at the signature page, date, and return the entire document within ten business days of receipt to Eric Vendel of the Ohio Department of Natural Resources, Division of Oil and Gas Resources Management at:

Ohio Department of Natural Resources
Division of Oil and Gas Resources Management
2045 Morse Road, Building F
Columbus, Ohio 43229

However, if you desire to negotiate changes to the compliance agreement, discuss the matter in greater detail, or have questions, please contact Mr. Vendel at (614) 265-6631 or by email at eric.vendel@dnr.state.oh.us within the ten business day time period.

If you do not reply within ten business days of receipt of this letter to initiate negotiations or if negotiations are not progressing toward reaching an expeditious agreement on the compliance agreement, I will withdraw this offer to resolve the violations and pursue other enforcement options. Because this letter and the enclosed documents summarize a proposed settlement, I consider them inadmissible by Statoil for any purpose in any subsequent enforcement action taken by the State should we be unable to reach an agreement.

I am optimistic that we can resolve this matter expeditiously through a compliance agreement, which would avoid expense and time associated with litigation. Thank you for your consideration of this proposal.

Sincerely,

Richard Simmers by Jon Rayfield

Richard Simmers, Chief
ODNR Division of Oil and Gas Resources Management

Enc.: Compliance Agreement
Attachment A: "Eisenbarth Pad – Ohio Operations
Incident Sampling & Analysis Plan"

cc:

COMPLIANCE AGREEMENT

Statoil USA Onshore Properties, Inc. ("Statoil") and the Division of Oil and Gas Resources Management ("Division") (hereinafter collectively referred to as "the Parties") for purposes of this compliance agreement only, agree to the following:

FACTS:

1. Statoil's corporate headquarters are located at 2103 Citywest Boulevard, Suite 800, Houston, Texas.

2. Pursuant to R.C. 1509.06, the Division issued to Statoil permits to drill the following eight (8) oil and gas wells on the Eisenbarth Pad, located in Ohio Township, Monroe County, Ohio:

   a. Eisenbarth 1-H Well, API #34-111-24421-00-00, issued on September 24, 2013, corrected on November 14, 2014 (correction made to drilling unit acreage);

   b. Eisenbarth 3-H Well, API #34-111-24300-00-00, issued on September 25, 2013;

   c. Eisenbarth 4-H Well, API #34-111-24418-00-00, issued on September 25, 2013;

   d. Eisenbarth U 4-H Well, API #34-111-24440-01-00, issued on September 25, 2013, corrected on November 14, 2014 (correction made to drilling unit acreage);

e. Eisenbarth 5-H Well, API #34-111-24288-00-00, issued on September 25, 2013;

f. Eisenbarth 6-H Well, API #34-111-24419-00-00, issued on September 25, 2013;

g. Eisenbarth 7-H Well, API #34-111-24285-00-00, issued on September 25, 2013, corrected on December 9, 2013 (correction made to permit number); and

h. Michael 1-H Well, API #34-111-24420-00-00, issued on September 25, 2013.

3. On June 28, 2014, Statoil representatives notified the Division of a fire incident on the Eisenbarth Pad. This fire occurred during activities associated with Statoil's production operations at the Eisenbarth Pad.

4. During the course of this incident, fluids containing brine and other substances associated with Statoil's operations were released from the Eisenbarth Pad onto the land and surface waters near the pad location, including an unnamed tributary of Opossum Creek and Opossum Creek. Division employees conducted a site review of the Eisenbarth Pad and, along with Statoil's consultants, Ohio EPA, and U.S. EPA employees, collected samples of the fluids for laboratory analysis and completed field tests on those fluids. The field test results indicated the presence of brine and other chemicals.

5. On June 29, 2014, the fire on the Eisenbarth Pad was extinguished. However, the release of fluids from the Eisenbarth Pad continued until July 2, 2014.

6. Laboratory analysis of the samples collected confirmed that the fluids contained brine.

7. Statoil implemented corrective measures and conducted monitoring and water sampling of the areas on and surrounding the Eisenbarth Pad.

8. On the drilling permit applications that Statoil submitted to the Division for the wells to be drilled on the Eisenbarth Pad that are listed in Paragraph 2 of this Compliance Agreement, Statoil agreed to, among other things: "conform with all provisions of Chapter 1509., ORC, and Chapter 1501., OAC, and all orders and conditions issued by the Chief, Division of Oil and Gas Resources Management."

VIOLATIONS:

9. R.C. 1509.22(A)(2) states, in pertinent part, that "* * * no person shall place or cause to be placed in ground water or in or on the land or discharge or cause to be discharged in surface water brine * * * or other fluids associated with the exploration, development, well stimulation, production operations, or plugging of oil or gas resources that causes or could reasonably be anticipated to cause damage or injury to public health or safety or the environment."

10. Statoil violated R.C. 1509.22(A)(2) by causing brine and other fluids associated with the exploration or development of oil or gas resources to be placed upon the ground and surface waters near the Eisenbarth Pad in such quantities that damaged or could reasonably be anticipated to cause damage or injury to public health and the environment.

11. R.C. 1509.03(A) states, in pertinent part, that "[n]o person shall violate any rule of the chief" adopted under R.C. Chapter 1509.

12. Ohio Administrative Code 1501:9-1-07 requires "[a]ll persons engaged in any phase of operation of any well or wells shall conduct operation or operations in a manner which will not contaminate or pollute the surface of the land, or water on the surface or in the subsurface."

13. Statoil violated Ohio Adm.Code 1501:9-1-07 by conducting operations in a manner that contaminated and polluted the surface of the land and surface waters near the Eisenbarth Pad with brine and other fluids associated with the exploration or development of oil or gas.

CONDITIONS:

14. Statoil completed the approved Sampling and Analysis Plan submitted for the Eisenbarth Pad for the contamination issues that occurred in relation to the June 28, 2014 incident, which is made a part of and incorporated into this Compliance Agreement as "Attachment A," including completion of the environmental investigation proposed in the Sampling and Analysis Plan. Pursuant to the Sampling and Analysis Plan, a report summarizing the environmental investigation was submitted to the Division with conclusions and recommendations for necessary remedial actions.

15. Statoil provided the Division with the results of ground water sampling that was conducted in March 2015 and June 2015, for the Division's review. Based on these ground water sampling results, the Division does not require additional sampling or remedial actions.

16. Statoil shall remit fifty thousand dollars ($50,000) total penalty to the Division for violations of R.C. Chapter 1509 and Ohio Adm. Code Chapter 1501:9, as listed above in Paragraphs 9 through 13 of this Compliance Agreement. The remittance of the fifty thousand dollars ($50,000) shall be submitted no later than two weeks after this Compliance Agreement is signed by all the parties. Of the total penalty, Statoil shall remit twenty-five thousand ($25,000) by certified check or cashier's check, payable to the order of Treasurer, State of Ohio, and delivered to Deputy Chief of the Division, Jon Rayfield, 2045 Morse Road, Building F,

Columbus, Ohio 43229. The Deputy Chief shall deposit the fifty thousand dollars ($25,000) in the oil and gas well fund.

17. In lieu of payment of twenty-five thousand dollars ($25,000) of the total penalty to the Division, Statoil shall pay twenty-five thousand dollars ($25,000) to a supplemental project [to be determined].

18. Statoil shall provide the Division with evidence of payment to the supplemental project described in paragraph 17 of this Compliance Agreement no later than two weeks after this Compliance Agreement is signed by all the parties.

19. During drilling and well completion operations on the Eisenbarth Pad, Statoil shall establish and maintain an emergency response plan that contains all of the following:

a. Diagram of the Eisenbarth Pad showing approximate locations of the equipment, explosives storage, radiologicals storage, and chemical storage.

b. A pre-determined release or discharge plan containing maps that identify containment areas and locations of resources that will be used in the event of a release from the Eisenbarth Pad to prevent materials from entering waters of the state. In addition, the plan shall describe the procedures and actions that will be implemented to prevent releases of materials into waters of the state.

c. Safety Data Sheets that are updated in accordance with the materials that are present at the Eisenbarth Pad.

20. The emergency response plan described in paragraph 19 shall be secured in a lock box that is located a minimum of five hundred (500) feet from all operations at the Eisenbarth

Pad. In addition, the emergency response plan shall be made available to first responders and the Division.

21. Statoil shall obtain and maintain adequate fire suppression during all operations at the Eisenbarth Pad. "Adequate fire suppression" means appropriate quantities of foam, water, and other fire extinguishment methods to minimize the impact of a fire occurring at the Eisenbarth Pad. The fire suppression resources described in this paragraph shall be staged and made available quickly for use by first responders.

22. Statoil shall equip and maintain water storage tanks and areas with appropriate valves, threads, piping, and similar equipment and connections for first responders to connect and obtain water from the tanks and areas.

23. Statoil further acknowledges its ongoing obligation to conduct all production operations in the State of Ohio in compliance with all requirements of R.C. Chapter 1509 and Ohio Adm.Code Chapter 1501:9.

24. If the Chief determines that Statoil failed to comply with the conditions set forth in this Compliance Agreement, the Chief may suspend all or part of Statoil's drilling and production operations in the State of Ohio for a period determined by the Chief.

DEFINITIONS:

25. All definitions from R.C. Chapter 1509 and Ohio Adm.Code 1501:9 are hereby incorporated into this Compliance Agreement.

PRESERVATION OF RIGHTS:

26. Except as to the terms of this Compliance Agreement, nothing in this Compliance Agreement shall be construed so as to prejudice the right of the Division to issue orders or to take additional enforcement actions to enforce the provisions of R.C. Chapter 1509 and Ohio Adm.Code 1501:9, including civil and/or criminal action or, to prejudice Statoil's right to appeal or otherwise challenge such actions.

27. Nothing in this Compliance Agreement shall be construed to contradict the oil and gas laws of the State of Ohio, contained in R.C. Chapter 1509 and Ohio Adm.Code 1501:9.

28. The remittance required under this Compliance Agreement shall not be construed as a civil penalty and the Division reserves the right to seek civil penalties if a breach of this Compliance Agreement occurs.

29. The Division reserves all rights to enforce R.C. Chapter 1509 and Ohio Adm.Code 1501:9, including but not limited to the right to file a civil enforcement action seeking injunctive relief and civil penalty for noncompliance with this Compliance Agreement.

30. Nothing in this Compliance Agreement shall be construed so as to prejudice the rights of any other Agency of the State of Ohio, including any other Division of the Department of Natural Resources or the Ohio Environmental Protection Agency, and shall not be construed as resolution of any pending claims or enforcement actions of any other Agencies or Divisions against Statoil, its agents, heirs, assigns, or successors-in-interests.

31. In the event of any default of the terms set forth in this Compliance Agreement, the Division may elect any and all remedies it deems appropriate. Further, in the event of default, Statoil, its heirs, assigns, and successors-in-interest agree that, in any litigation brought by the Division to enforce this Compliance Agreement:

a. Venue shall be proper in the Franklin County, Ohio Court of Common Pleas; and

b. Service of process and summons thereof are hereby waived provided the Division provides actual notice to Statoil.

MODIFICATION

32. This Compliance Agreement may be modified by agreement of the Parties. Any modification to this Compliance Agreement must be in writing and signed by all Parties.

TERMINATION:

33. Statoil's obligations under this Compliance Agreement shall terminate when Statoil certifies in writing, and demonstrates to the satisfaction of the Chief of the Division, that Statoil has performed all of its obligations under this Compliance Agreement and the Chief acknowledges, in writing, the termination of this Compliance Agreement. If the Chief does not agree that all obligations have been performed, the Chief will notify Statoil of the obligations that have not been performed, in which case Statoil will have an opportunity to address any such deficiencies and seek termination in accordance with this paragraph.

34. The certification required in Paragraph 33 shall contain the following attestation: "I certify that the information contained in or accompanying this certification is true, accurate, and complete." The certification shall be submitted by Statoil to the Division and shall be signed by a responsible official of Statoil with authority to bind Statoil. For purpose of this Compliance Agreement, a responsible official is a corporate officer who is in charge of a principal business function of Statoil.

OTHER CLAIMS:

35. Nothing in this Compliance Agreement shall constitute or be construed as a release from any claim, cause of action, or demand in law or equity against any person, firm, partnership, or corporation, not a party to this Compliance Agreement, for any liability arising from, or related to, the well sites listed in Paragraph 2 of this Compliance Agreement.

WAIVER:

36. In order to resolve disputed claims without admission of fact, violation, or liability, Statoil consents to the issuance of this Compliance Agreement and agrees to comply with this Compliance Agreement. Except for the right to seek corrective action at the Statoil Pads listed in Paragraph 2 of this Compliance Agreement, which right the Division does not waive, compliance with this Compliance Agreement shall be a full accord and satisfaction for Statoil's liability for the violations specifically cited in this Compliance Agreement.

37. Statoil hereby waives the right to appeal the issuance and the terms and conditions of this Compliance Agreement, and any and all rights Statoil may have to seek administrative or judicial review of this Compliance Agreement in law or equity.

IN WITNESS WHEREFORE, The parties hereby acknowledge that they have read and understood the terms and conditions of this Compliance Agreement and with full awareness of the legal consequences, make a voluntary, knowing, and intelligent commitment, and intend to be fully bound thereby.

AGREED:

[Name of Statoil Rep] [Title] Statoil USA Onshore Properties, Inc. 2103 Citywest Boulevard, Suite 800 Houston, Texas 77042 *With authority to bind Statoil*	**Date**
Richard J. Simmers Chief Division of Oil & Gas Resources Mgmt. 2045 Morse Road, F-3 Columbus, OH 43229	**Date**

Attachment A

Statoil

Eisenbarth Pad - Ohio Operations Incident
Sampling & Analysis Plan, Revision 2
Near Hannibal
Monroe County, Ohio

(Revised: November 11, 2014)

Penn E&R
Environmental & Remediation
323 Main Street
New Martinsville, WV 26155

TABLE OF CONTENTS

FIGURES

1.0 INTRODUCTION AND PURPOSE

This Sampling and Analysis Plan (SAP) was prepared by Penn Environmental & Remediation, Inc. (Penn E&R) on behalf of Statoil to investigate potential impacts to the Eisenbarth well pad located near Hannibal, Ohio as a result of the June incident at the location. A map of the site location is provided in **Figure 1**. The incident involved a well pad engulfed in a fire that consumed products stored on-site, as well as, released produced water from the existing wellheads. The objective of the environmental investigation is to collect and analyze soil samples and possibly water samples, if necessary, to determine the nature and extent of potential impacts to the well pad and to evaluate the need for removal and restoration activities on the well pad.

Statoil shall work together with the Ohio Department of Natural Resources (ODNR) and provide information and request appropriate permissions when necessary.

2.0 HEALTH AND SAFETY

Penn E&R personnel will review and adhere to their site specific Health and Safety Plan (HASP) developed for the site activities. Sampling activities will be completed in a safe manner and under the conditions detailed in the HASP and will include daily Job Safety Analysis (JSA).

3.0 SAMPLING OBJECTIVES

The data collected during investigation activities will be used to assess potential impacts to the site and to the environment as a result of the incident. The information obtained during the investigation will also be utilized to evaluate additional site work that may be required for pad restoration activities.

4.0 SOIL SAMPLING METHODOLOGY AND ANALYSIS

4.1 On-Pad Soil Samples

Soil samples will be collected from the production pad area once current equipment and stored materials have been removed from the pad. Soil samples will be collected from the production pad area in order to characterize the surface and subsurface soil for the presence of potential on-site constituents (POSCs).

The POSCs for the site were defined during the Center for Toxicology and Environmental Health LLC, (CTEH) review and evaluation of the Material Safety Data Sheets (MSDS) for the materials stored on the pad at the time of the incident and agreed upon by Unified Command. During performance of this determination, CTEH evaluated the potential toxic characteristics of each of the compounds identified on the MSDS and their potential risk to human health and the environment, and for the presence of tentatively identified compounds (TICs); ie, chemicals or compounds that may be present; but, not typically reported USEPA approved method laboratory analysis. Based on CTEH's review and Unified Command's approval, no other potential target analytes or TICs beyond the POSCs were needed to be assessed in order to adequately evaluate

the conditions on the Eisenbarth pad. Details regarding these determinations are provided in CTEH's September 2014 Ohio Operations Incident – Sampling and Analysis report.

Therefore, the following soil sampling procedures will be implemented for the pad investigation. Proposed sampling locations are indicated on the map attached as **Figure 2**.

Soil Boring Installation

Prior to field mobilization, a renewal of the utility One-Call will be performed to confirm the identification of potential underground utilities at the Site. Additionally, a review of available site drawings will be conducted to confirm the location of site utilities not identified by the One-Call notification. If necessary, soil boring locations will be modified in the field to avoid potential interference from utilities.

The soil borings will be installed utilizing split-spoon and hollow-stem auger techniques. The drilling and sampling will be observed by a field scientist and all drilling activities will be performed by a licensed drilling contractor. The field scientist will maintain boring logs of the material encountered during the drilling process and a record of daily field activities at the site as they pertain to the investigation. For estimation purposes, it is assumed the borings will be advanced to a total depth no greater than 20 feet below the ground surface (bgs) before bedrock refusal will be obtained.

Each sample interval will be examined and logged for lithologic characteristics, groundwater occurrence, evidence of impacts (staining, olfactory, etc.), and screened for the potential presence of volatile organic compounds using a calibrated photo-ionization detector (PID). Upon retrieval from the borehole, the split-spoon sampler will be opened for field screening with a PID, visual evaluation and sample collection. At a minimum, one soil sample will be collected from surface (0 to 2-feet bgs), and from the level of where the highest PID reading was observed. However, if field observations indicate sampling from more than two intervals is warranted additional samples may be collected from the boreholes. If no elevated PID readings are observed, a soil sample will collected either from the bottom of the borehole or immediately above the groundwater table if encountered.

All drilling and sampling equipment will be decontaminated before advancing the next boring. If groundwater is encountered in the boreholes, the borings will be converted into temporary groundwater monitoring wells for the collection of groundwater samples. The monitoring wells will be constructed and maintained to prevent impacts from the Site surface migrating to the subsurface. Temporary monitoring wells will be left in place and sampled 24 hours later. At this time the existing piezometers installed by CTEH will also be sampled. The locations of the temporary monitoring wells will be surveyed to establish horizontal and vertical points of reference (northings and eastings, and groundsurface and top of casing elevations) and depth to water measurements shall be obtained from both the temporary monitoring wells and existing Site piezometers.

Numerous soil samples were collected previously at locations both on and off the pad. Penn E&R proposes to collect additional soil samples from 37 boreholes as identified on **Figure 2** to be submitted for laboratory analyses. The rationale behind the proposed borehole locations is defined as follows:

Rationale	Sample Grid Locations
Confirm positive detections identified during prior sampling collection events	A1, A5, D3
Evaluate areas where water ponded on the pad or may have left the pad during the firefighting activities	A2, A3, A5, A6, A7, B7, C7, E7, F7, H7, I7
Investigate areas where containers of POSCs were stored prior and during the incident	B2, B3, C5, D3, E3, E4, E5, F4, F5, F6, G4, G5, G6, G7
Establish background conditions from areas on the pad that are believed to be unaffected by the incident	C1, F1, G1, I2, I3

Additional sampling may be performed based on observations made during the investigation activities. Immediately following sample collection, the samples will be placed into laboratory-supplied containers and submitted to an accredited laboratory using standard Chain of Custody protocols for analyses. The analyses will be performed under an expedited laboratory turnaround.

Based on the conclusions of CTEH's report, the presence or absence of POSCs will be investigated within the soil samples collected from the pad. The collected soil samples will be analyzed only for the following POSCs by USEPA approved methods presented in the table below: acetone, pH, petroleum distillates (light-gasoline, medium-diesel, and heavy-oil), and isopropanol. The following POSCs will not be specifically analyzed for due to the lack of a specific USEPA approved laboratory analytical method: citrus extract, terpenes and terpenoids, polyoxyalkylenes, guar gum, and monoethanolamine borate.

Although the laboratory methods for the detection of tributyl tetradecyl phosphonium chloride (TTPC) are on-going development and there remains uncertainty associated with the proposed method, sampling and analysis for the presence of TTPC in soils and/or groundwater will be included as part of the investigation. If groundwater is encountered within the boreholes, groundwater samples will be collected from the temporary monitoring wells and the existing Site piezometers to be analyzed by the same analytical methods as the soils.

Analytical Method	Rationale
Volatile organic compounds (VOCs) by USEPA Method 8260	Potential general impacts from site materials; POSCs in materials stored on pad (acetone, petroleum distillates [light – gasoline, medium – diesel, and heavy – oil], and diesel fuel). The method will be utilized to screen for the presence of proprietary POSCs.
Semi-volatile organic	Potential general impacts from site materials; POSCs in

compounds (SVOCs)by USEPA Method 8270	materials stored on pad (petroleum distillates, and diesel fuel)
Isopropanol by USEPA Method 8015	POSC in materials stored on pad (Gas Perm 1000)
pH by USEPA Method 9045	Potential POSC in flowback waters and hydrochloric acid

4.2 Off-Pad Soil Samples

Three soil borings will be advanced in the vicinity of catch basins CB1, CB5 and CB6 to evaluate potential off-pad impacts to site soils. Additionally, six borings will be advanced on the southern and western slopes of the pad. Three borings will be advanced on each of the slopes to evaluate conditions associated with the recent slope movement on the southern pad slope and the relocation of the moved materials to the western pad slope. Soil samples and groundwater samples, if encountered, will be analyzed by the same analytical methods as the On-Pad soil/groundwater samples.

No additional off-pad sampling is proposed at this time as extensive sampling was performed in other off-pad areas without identification of significant impacts to site soils.

5.0 SAMPLE HANDLING PROCEDURES

Once logged and field screened, the soil samples will be packaged into laboratory supplied containers, placed on ice and submitted to the laboratory for analysis utilizing standard chain of custody protocols. Custody seals will be placed on each sample-containing cooler, and chain-of-custody procedures will be maintained from the time of sample collection until arrival at the laboratory to protect sample integrity.

6.0 QUALITY ASSURANCE

Sampling will be carried out in conjunction with the following quality assurance (QA) goals to confirm generation of valid and defensible data. Quality assurance samples include Matrix Spikes, Matrix Spike Duplicates, and duplicates. To provide QA for the proposed sampling event, the following sampling, analysis, and data validation procedures will be performed:

Field Calibration

Instruments used in the field as part of this sampling event are anticipated to consist of photo-ionization devices (PIDs), pH/conductivity meters, GPS units, digital cameras, and hand-held data collection devices such as tablets/smart phones. PIDs and pH/conductivity meters will be calibrated daily and calibration will be documented on dedicated equipment calibration forms and in field log books. Other equipment is not anticipated to require field calibration. Operators of each piece of equipment are responsible for maintaining (including proper battery charge) and operating this equipment such that it conforms to each respective manufacturer's specifications.

Field Duplicate Sample

For approximately every twenty samples collected in the field, one field duplicate will be collected and submitted for laboratory analysis to verify the reproducibility of the sampling and analytical methods. Field duplicates will be prepared by submitting an additional aliquot from the same sample location to the laboratory for the prescribed analyses. Field duplicates will not be identified as duplicates on the chain of custody, but will be identified and/or numbered in a manner consistent with field samples

Field Split Samples

Field split samples refer to samples collected by the on-site regulatory agency or its designee from the same sampling location and independently submitted to a different laboratory for analysis. Field split samples may be collected at the discretion of Statoil.

Laboratory QA

Laboratory quality control procedures will be consistent with the prescribed analytical methods and relevant state and federal regulatory guidance. Deliverables will contain the supporting documentation necessary for data validation. Internal laboratory quality control checks will include method blanks, matrix spikes/matrix spike duplicates, surrogate samples, calibration standards, and laboratory control standards.

Matrix Spike/Matrix Spike Duplicate Sample

Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples refer to field samples spiked with the analytes of interest prior to being analyzed at the laboratory to gauge the quality of analysis. Approximately one in twenty samples will be analyzed as MS/MSD samples.

7.0 WASTE DISPOSAL

Investigation derived wastes (IDW) generated during site activities will be managed appropriately to comply with applicable local, state, and federal regulations in a manner consistent with the previously generated Statoil-US Waste Management Plan (WMP). Penn E&R will require a copy of the WMP prior to the initiation of field activities.

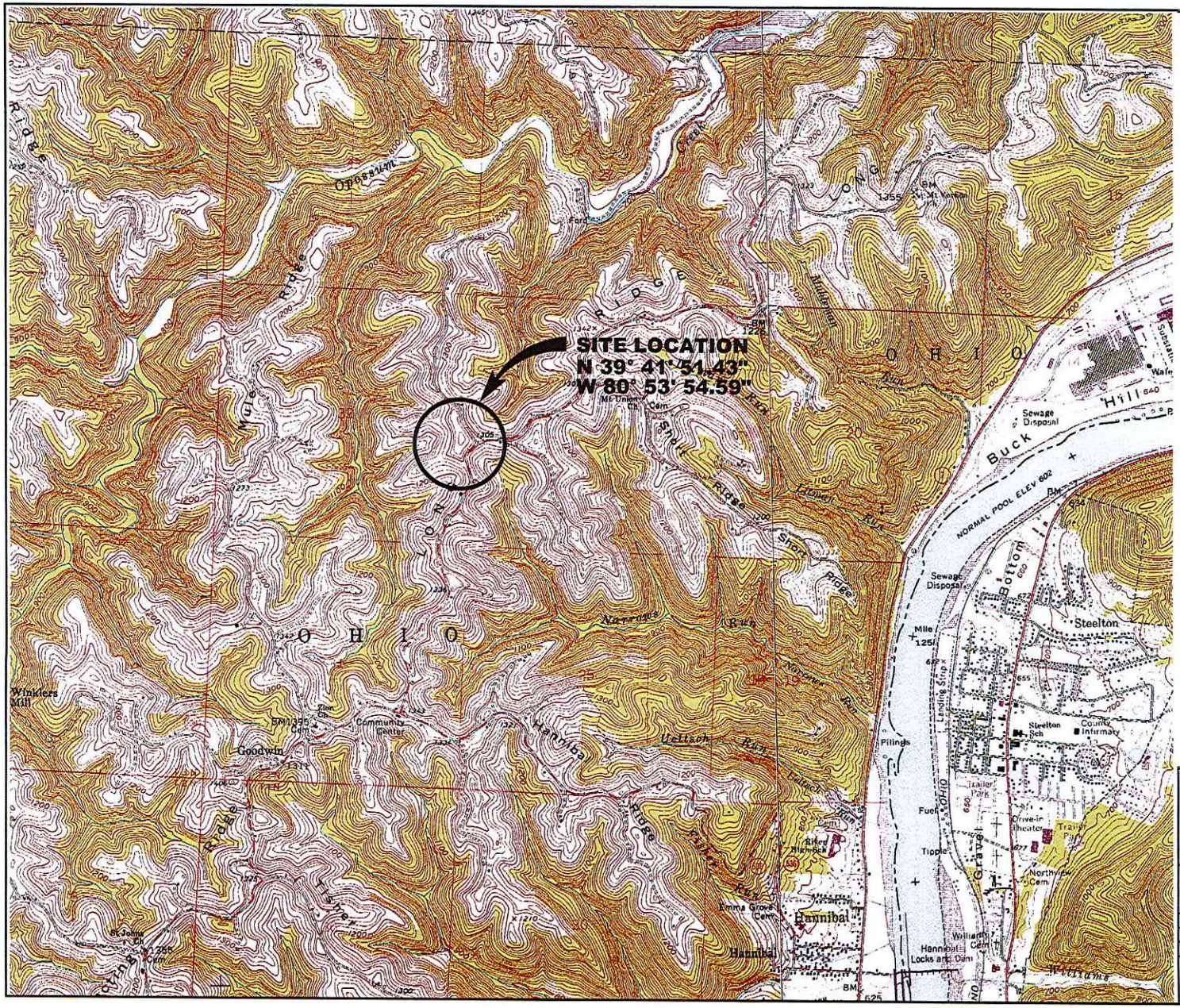
8.0 DATA ANALYSIS

To assess the potential environmental impact from the compromised well pad, the results of sampling will be reviewed for the presence/absence of POSCs. The concentrations of detected compounds will then be compared to relevant regulatory standards as appropriate and the results of laboratory analyses will be provided to Statoil. If unanticipated conditions are encountered during the performance of field activities or following the review of the obtained data indicates additional investigation may be warranted, the necessity of further investigation will be evaluated at that time. A report will be generated to document the investigation activities including relevant incident history and background. The report will include:

- Descriptions of sample location selection rationale
- Investigation methods including equipment documentation with brand and model numbers
- Boring logs including: driller and drilling equipment make and model, borehole logger, date and time of the sampling, surveyed location of each sample point including surface elevation and top of casing, sample recovery, description of materials encountered including moisture content, PID responses, backfilling process, and, if water is encountered, temporary well construction details and depth to water during temporary well installation.
- Summary of findings including figures, analytical result summary tables, potentiometric contour maps, and Site cross-sections
- Conclusions and recommendations for additional investigation if deemed appropriate

9.0 RECORDS MANAGEMENT

Proper documentation of field activities is a crucial part of the field inspection, field investigation, environmental sampling, and environmental remediation processes. Penn E&R shall follow our Field Documentation and Management document dated 2014 to manage project records. In general, records must be legible and protected against damage, deterioration, or loss. Records will likely include, but are not limited to, the following: field notebooks, sample collection forms, sample location maps and drawings, equipment calibration forms, and chain of custody forms. Documentation errors will be addressed by lining out errors in the field logbook (a single line strike-through) with an initial and date of the correction.



OHIO

WEST VIRGINIA

QUADRANGLE LOCATION

REFERENCE:

USGS 7.5-MIN TOPOGRAPHIC QUADRANGLES

ROUND BOTTOM, OHIO-W.VA. DATED 1960, PHOTOREVISED 1972 AND 1976.

NEW MARTINSVILLE, W.VA.-OHIO DATED 1960, PHOTOREVISED 1972 AND 1976.

SCALE – FEET

0 2000 4000 6000

FIGURE 1

SITE LOCATION MAP

HANNIBAL, OHIO

PREPARED FOR

STATOIL

APPROVED	CMH 08/XX/14
CHECKED	XXX XX/XX/14
DRAWN	MFR 08/07/14

DRAWING NUMBER

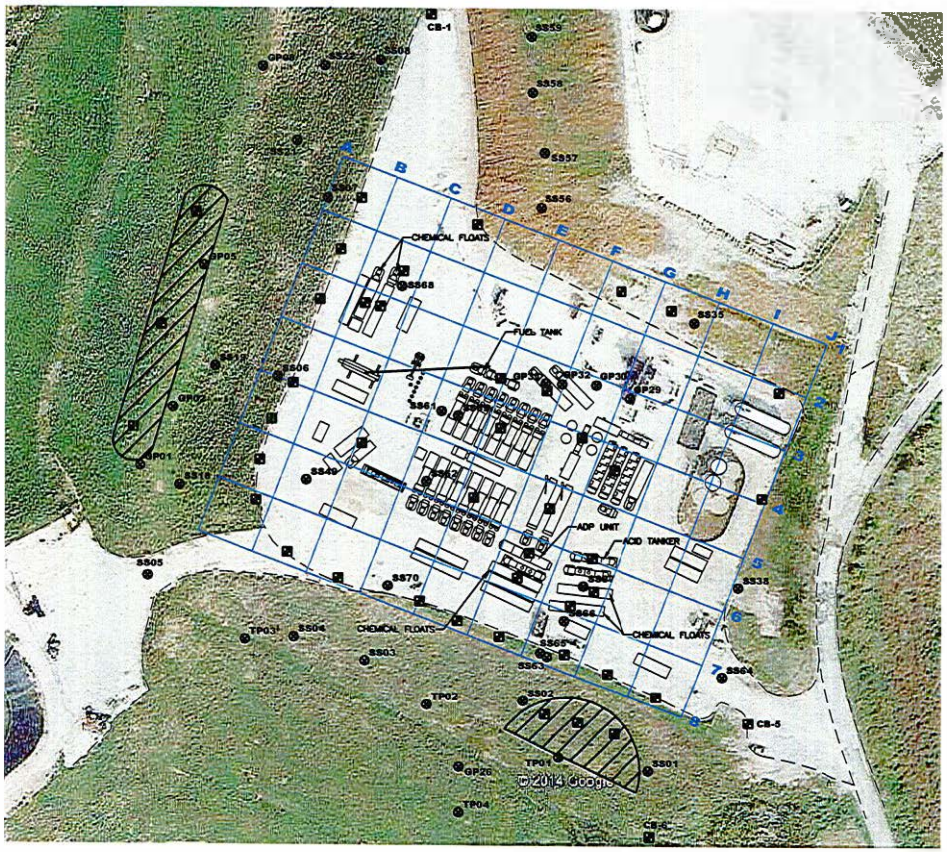
NM006484-01

Penn E&R

Environmental & Remediation, Inc.

S:\PROJECT FILES\NM - Eis - Earth Fire Pit\ Files\GREENEARTH PAD.dwg, 8/7/2014 10:16:01 AM, mreader

FIGURES



LEGEND

SS66 ⊗ PRIOR SOIL SAMPLE LOCATIONS

■ PROPOSED SOIL SAMPLE LOCATIONS

SLIP AREA

SLIP MATERIAL DEPOSITION AREA

NOTE: SAMPLE LOCATIONS MAY BE ADJUSTED IN THE FIELD TO ADDRESS LOCAL CONDITIONS.

SCALE – FEET

0 100 200 300

FIGURE 2
PROPOSED SAMPLE LOCATIONS
HANNIBAL, OHIO

PREPARED FOR
STATOIL
HOUSTON, TEXAS

APPROVED	CMH 11/03/14
CHECKED	CMH 11/03/14
DRAWN	DEB 11/03/14

DRAWING NUMBER
NM006484-01

Penn E&R
Environmental & Remediation, Inc.